



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,552	03/21/2002	Christer Bohm	10806-011	3687
22852	7590	07/12/2005	EXAMINER	
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413			GHULAMALI, QUTBUDDIN	
			ART UNIT	PAPER NUMBER
			2637	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SM

Office Action Summary	Application No. 10/009,552	Applicant(s) BOHM ET AL.	
	Examiner Qutub Ghulamali	Art Unit 2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-17, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 10, 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/22/01, 1/22/02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: Claim 1, line 11, the phrase "and, based thereupon" is ambiguous and can be replaced with --and--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Eisenberg et al (US Patent 4,912,706).

Regarding claim 1, Eisenberg discloses a method for synchronizing operation at a node of a communication network comprising:

receiving two or more input frame synchronization signals and transmitting an output frame synchronization signal, the output frame synchronization signal being associated with a predefined (block of data and guard band) one of said input frame synchronization signals (abstract; col. 3, lines 36-39, 56-65);

Art Unit: 2637

selecting (selected routes) one of said input frame synchronization signals to define a node (slave equipment) common frame synchronization signal (col. 3, lines 36-49);
generating the output frame synchronization signal using the node common frame synchronization signal as reference for synchronization (col. 5, lines 35-56);
determining a phase relationship between the output frame synchronization signal and the input frame synchronization signal that is associated therewith; and, based thereupon adjusting said phase relationship by adjusting a phase relationship between the output frame synchronization signal and the node common synchronization signal when generating the output frame synchronization signal (abstract; col. 2, lines 39-62).

Regarding claim 14, the steps claimed as apparatus is nothing more than restating the function of the specific steps of the method as claimed above and therefore, it would have been obvious, considering the aforementioned rejection for the method claims 1, 13.

Regarding claim 2, Eisenberg discloses adjusting is performed with the purpose of controlling the time difference between each transmission of the output frame synchronization signal each reception of the input frame synchronization signal that is associated therewith (col. 3, lines 65-67; col. 4, lines 1-3; col. 8, lines 57-62).

Regarding claims 4 and 9, Eisenberg discloses all limitations of the claim except, output frame synchronization signal is stored in a memory prior to transmission thereof, the data fill level of said memory reflecting the phase relationship between the output frame synchronization signal and the input frame synchronization signal that is associated therewith, and wherein the phase relationship between the output frame synchronization signal and the node common

Art Unit: 2637

synchronization signal is adjusted so as to maintain a selected data fill level of said memory (col. 12, lines 51-60).

Regarding claim 5, Eisenberg discloses 5. synchronization signals occur regularly, are of fixed size, and are each divided into a plurality of fixed sized time slots (col. 2, lines 2-25).

Regarding claims 6, 7 and 16, Eisenberg discloses transmitting, in addition to said output frame synchronization signal, at least one other output frame synchronization signal, each output frame synchronization signal being generated using said node common synchronization signal as reference for synchronization (col. 2, lines 32-40); and adjusting each output frame synchronization signal individually to show a respective phase relationship in relation to said node common synchronization (col. 3, lines 36-65).

As per claims 8 and 17, Eisenberg discloses that a change in the selection of input frame synchronization signal to define said node common synchronization signal does not cause any phase shifts in said node common synchronization signal (col. 5, lines 38-56).

Regarding claims 11 and 19, Eisenberg discloses use of a time division multiplexed circuit switched network (col. 3, lines 36-40).

Regarding claim 12, Eisenberg discloses frame synchronization signals is an in-band frame start signal that is transmitted on a respective link to designate the start of each frame transmitted thereon (col. 3, lines 55-65).

4. Claims 13 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Takenaka et al (US Patent 5,515,401).

Art Unit: 2637

Regarding claims 13 and 20, Takenaka discloses a method for synchronizing operation at a node of a communication network comprising:

receiving an input frame synchronization signal (abstract; col. 2, lines 15-29, 37-44);
transmitting an output frame synchronization signal that is associated with said input frame synchronization signal (abstract; col. 1, lines 28-35; col. 2, lines 15-37; col. 6, lines 15-27);
controlling a phase relationship between the output frame synchronization signal and the input frame synchronization signal by the step of adjusting a phase relationship between the output frame synchronization signal and signal that is defined optionally using another input frame synchronization signal as reference for synchronization (col. 2, lines 62-67; col. 3, lines 1-10; col. 26, lines 32-35).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Eisenberg et al (US Patent 4,912,706) in view of Takenaka et al (US Patent 5,515,401).

Regarding claim 3, Eisenberg discloses all limitations of the claim except comprising increasing phase difference if time difference is smaller than a selected time difference, and decreasing said phase difference if said time difference is larger than said selected time difference. Takenaka in a similar field of endeavor discloses, increasing phase difference

Art Unit: 2637

(greater) if time difference (T_H) is smaller than a selected time difference, and decreasing said phase difference if said time difference is larger than said selected time difference (col. 9, lines 23-40). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to increase the phase difference if time difference is small and decrease it if the time difference is large as taught by Takenaka in the system of Eisenberg because it can expedite the convergence of difference signals and improve accuracy.

Allowable Subject Matter

7. Claims 10 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patents:

Yahata (USP 5,615,177) discloses a hybrid synchronous clock synchronization system.

Grimes et al (USP 4,736,393) shows a distributed timing control for a digital communication system in a timing signal transmitted by each node and the reference node.

Tan et al (USP 4,525,837) discloses a digital signal transmission system.

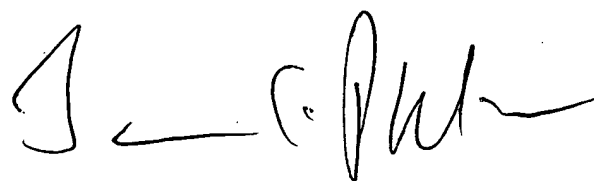
Art Unit: 2637

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutub Ghulamali whose telephone number is (571) 272-3014. The examiner can normally be reached on Monday-Friday from 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

QG.
July 7, 2005.

A handwritten signature in black ink, appearing to read 'J. K. Patel', with a stylized flourish at the end.

JAY K. PATEL
SUPERVISORY PATENT EXAMINER